In the Claims:

Please amend the claims as follows:

1. (Currently Amended) Stabilizer (1) designed to be slid onto a rod (2), wherein it comprises at least one elastic part (4) that can deform when the stabilizer (1) is held in an initial position in compression against a shoulder (5) of the rod (2), this elastic part (4) compensating for play that may appear later between the stabilizer (1) and the rod (2) wherein the elastic part being a deformable tubular portion and comprises a series of projecting parts around its periphery, and oriented longitudinally and separated by recessed parts ~~in order to fix the stabilizer in a predetermined position with respect to the rod~~ .

2. (Previously presented) Stabilizer according to claim 1, wherein the play is longitudinal.

3. (Previously presented) Stabilizer according to either claim 1, wherein the elastic part (4) co-operates with the shoulder (5) to block the stabilizer (1) in rotation with respect to the rod (2) in the initial position, this blockage in rotation being kept later.

4. (Previously presented) Stabilizer according to claims 1, wherein the elastic part (4) is located at one end of the stabilizer and it will come into contact with the shoulder (5) of the rod (2).

5. (Previously presented) Stabilizer according to claim 1, wherein it also comprises a part more rigid than the elastic part (4), this part also being practically non deformable.

6. (Currently amended) Stabilizer according to claim 1 wherein it is in the shape of a sleeve, the ~~elastic part (4) being a~~ deformable tubular portion of the sleeve~~, this the tubular portion~~ being reversibly deformable.

7. (Canceled)

8. (Previously presented) Stabilizer according to claim 7, wherein the projecting parts (41) will cooperate with the projecting parts (51) of the shoulder (5), the projecting parts (41) of the deformable tubular portion (4) being provided with sides (43) that maintain sliding and separating contact with the sides (53) of the projecting parts (51) of the shoulder (5) during initial positioning.

9. (Previously presented) Stabilizer according to claim 7 wherein the sides (43) of the projecting parts (41) of the deformable tubular section (41) essentially have a spiral-shaped profile.

10. (Previously presented) Stabilizer according to claim 7 wherein a cross-section shows two sides (43) of a part (41) projecting from the deformable tubular portion (4) delimiting an angle at the vertex (χ) that is greater than or equal to the angle at the vertex (δ) delimited by two radii (R) of the tubular portion passing approximately at the mid-thickness (e) of the two sides (43).

11. (Previously presented) Stabilizer according to claim 7 wherein the projecting parts (41) of the deformable tubular portion (4) are flared on their end and have longitudinal symmetry.

12. (Previously presented) Rod (2) that will be fitted with at least one stabilizer (4) according to claim 1 wherein it comprises a shoulder (5) that will cooperate with the stabilizer.

13. (Previously presented) Rod according to claim 12, wherein the geometry of the shoulder (5) matches the geometry of the elastic part (4).

14. (Previously presented) Rod according claim 12, designed to hold external means (61) that help to keep the stabilizer (1) in compression, wherein it comprises means (60) contributing to holding the stabilizer (1) in compression against the shoulder (5), these means (60) being designed to cooperate with the external means (61).

15. (Previously presented) Rod according to claim 14, wherein the means contributing to holding the stabilizer (1) in compression against the shoulder (5) comprise at least one zone (60) with a male thread.

16. (Previously presented) Rod according to claim 14, wherein the means contributing to keeping the stabilizer (1) in compression in contact with the shoulder (5) comprise at least one housing (63) in which a part (64) will be fitted, one end of which is provided with a male thread.

17. (Previously presented) Rod according to claim 12 wherein the shoulder (5) is sufficiently rigid to be practically non deformable.

18. (Previously presented) Rod according to claim 12 wherein it is a rod in a string of drilling rods.

19. (Previously presented) Rod according to claim 18, wherein it is a drill stem.

20. (Previously presented) Rod according to claim 12 wherein it is a logging while drilling tool.

21. (Previously presented) Rod according to claim 12 wherein it is a measurement while drilling tool.

22. (Previously presented) Assembly formed from at least one rod (2) according to claim 12, the rod (2) carrying at least one stabilizer (1) according to one of claims 1 to

11, wherein it also comprises external means (61) contributing to holding the stabilizer (1) in compression with the shoulder (5) of rod (2).

23. (Previously presented) Assembly according to claim 22, wherein the external means (61) are in the shape of a ring threaded on the inside to be screwed on the rod (2).

24. (Previously presented) Assembly according to claim 22 wherein a first space (J) is formed between the end of the projecting parts (41) of the deformable tubular part (4) and the shoulder (5) when the stabilizer is in position in contact with the shoulder (5) without compression, a second space (J1) is formed between the end of the projecting part (41) of the deformable tubular part (4) and the shoulder (5) when the stabilizer (1) is in the initial position, the second space (J1) being less than the first space (J).

25. (Previously presented) Rod (2) that will be fitted with at least one stabilizer (4) according to claim 7, wherein it comprises a shoulder (5) that will cooperate with the stabilizer

26. (Previously presented) Rod (2) that will be fitted with at least one stabilizer (4) according to claim 12, wherein it comprises a shoulder (5) that will cooperate with the stabilizer.

27. (Previously presented) Rod according to claim 14, wherein the shoulder (5) is sufficiently rigid to be practically non deformable.

28. (Previously presented) Rod according to claim 14, wherein it is a rod in a string of drilling rods.

29. (Previously presented) Rod according to claim 14, wherein it is a logging while drilling tool.

30. (Previously presented) Rod according to 12, wherein it is a measurement while drilling tool.

31. (Previously presented) Rod according to 14, wherein it is a measurement while drilling tool.

32. (Previously presented) Assembly formed from at least one rod (2) according to claim 14, the rod (2) carrying at least one stabilizer (1) according to one of claims 1 to 11, wherein it also comprises external means (61) contributing to holding the stabilizer (1) in compression with the shoulder (5) of rod (2).

33. (Previously presented) Assembly according to claim 32, wherein the external means (61) are in the shape of a ring threaded on the inside to be screwed on the rod (2).

34. (Previously presented) Assembly according to claim 32, wherein a first space (J) is formed between the end of the projecting parts (41) of the deformable tubular part (4) and the shoulder (5) when the stabilizer is in position in contact with the shoulder (5) without compression, a second space (J1) is formed between the end of the projecting part (41) of the deformable tubular part (4) and the shoulder (5) when the stabilizer (1) is in the initial position, the second space (J1) being less than the first space (J).

35. (Canceled)

36. (Canceled)

37. (Canceled)